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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/238,851	01/27/1999	DARRYL W. PETERS	5545	5768

7590 08/13/2003

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EXAMINER

WEBB, GREGORY E

ART UNIT	PAPER NUMBER
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1751

18

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/238,851

Applicant(s)

PETERS ET AL.

Examiner

Gregory E. Webb

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☒ Claim(s) 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>15</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

1. The following is in response to the applicant's arguments submitted 7-18-03.

Claim Rejections - 35 USC § 102/103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1, 3, 5, 8, 10-12, and 14-19 remain rejected under 35 U.S.C. 102(b) as being anticipated by Torii et al (US 5,972,862).
4. Claim 18 remains rejected under 35 USC 103(a) as being rendered obvious by Torii et al and further in view of Small et al (US 6,117,783).
5. Claims 1-17 remain rejected under 35 USC 103(a) as being rendered obvious by Torii et al and further in view of Small et al (US 6,117,783).
6. Previous objections to claim 20 are withdrawn based on the applicant's amendments to the claims.
7. Concerning newly added claims 20-26:
8. Claims 20-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Torii et al (US 5,972,862).
9. Torii teaches aqueous compositions containing (A) a fluorine containing compound (such as ammonium fluoride), (B) a polar solvent such as formamide, dimethylformide, pyrrolidones, etc., and (D) a quaternary ammonium compound such as an ammonium salt of phosphoric acid (i.e. tetramethyl ammonium phosphate).

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10. Concerning the corrosion inhibitor, Torii teaches the use of various organic and inorganic acids as component (C) including phthalic acid, benzoic acid, malonic acid, maleic acid, fumaric acid, etc. (see col. 5).

Response to Arguments

11. Applicant's arguments filed 7-18-03 have been fully considered but they are not persuasive.

12. The applicant argues that the prior art does not teach buffered solutions and that the compositions of Ward et al require the inclusion of a glycol.

13. Concerning the first argument, the applicant has NOT demonstrated that the prior art compositions lack a buffering agent. In fact, the applicant has clearly demonstrated that the prior art compositions are in fact buffered. The explanation follows:

14. The applicant's figure shows several prior art compositions and the instant composition and the effects of adding sodium hydroxide (a strong base) to the solution.

15. A perfectly buffered solution would be represented by a horizontal line. The instant composition is not perfectly buffered as shown by the slope of the curve being positive.

Similarly, the prior art compositions are not perfectly buffered as they too show a positive slope.

16. As each of these curves has a positive slope, an equilibrium must exist as demonstrated by the formula:

$$K \text{ (equilibrium const)} = [H^+][A^-]/[HA]$$

17. In example 5 of the prior art we can see that an equilibrium exists up to a pH of approximately 6 and that the composition is buffered. A strong jump occurs after this point and

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the pH rapidly approached a pH of 8 before again reaching a second equilibrium (i.e. a second buffered state).

18. The applicant's composition follows an identical pattern, a moderate rise in pH, and then a jump to a second equilibrium. Therefore, the applicant has demonstrated quite effectively the ability of the prior art to buffer pH.

19. It should be mentioned that the differences in slopes in this figure show only that the compositions vary in their ability to buffer. They do not show the prior art to be unbuffered nor do they show that the prior art compositions lack a buffering agent. As the applicant's claims do not address the specific amount or extent of buffering, the examiner must read this in the broadest context and consider each of these formulations presented in the figure to be buffered, albeit to different degrees.

20. Furthermore, the applicant's buffering compound, ammonium phosphate salt as described in newly amended claim 20, is in fact taught by the prior art as Torii teaches the use of tetramethyl ammonium phosphate (an ammonium salt of phosphoric acid; see col. 6, 30-34).

21. Concerning the second argument, the examiner has relied upon Ward only for a teaching of common semiconductor corrosion inhibitors. As both references teach semiconductor processing and both references are concerned with the semiconductor oxidizing, there is no reason to believe that an identical component would not perform an identical function on an identical substrate. The applicant has not demonstrated that this corrosion inhibitor would not work in the compositions of Torii.

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Allowable Subject Matter

22. Claim 26 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. The prior art fails to teach or suggest the inclusion of the fluoroboric acid to compositions containing an acid buffer, a polar organic solvent, water, and is free of alcohols.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory E. Webb whose telephone number is 703-305-4945.

The examiner can normally be reached on 9:00-17:30 (m-f).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 703-308-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9310 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

A handwritten signature in black ink, appearing to be 'Gregory E. Webb', with a large loop at the end.

Gregory E. Webb
Primary Examiner
Art Unit 1751

gw
August 7, 2003